

Phys 3340, Principles of Environmental Physics

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Lectures: slot 3: 10:00 - 10:50 am, Mon., Wed, & Friday, Rm. C3067

Reference Texts: *Environmental Science*, Boeker and van Grondelle, 2001.
Environmental Physics, Boeker and van Grondelle, 1999 or 2011.
IPCC WG1 AR6 Summary for Policymakers and Technical Summary
and various documents on course website (user name: 3340user)

Course Description: “Principles of Environmental Physics” will explore the application of physics to environmental global change contexts, with a focus on developing problem solving skills and physical understanding. The major topics are: 1) the earth/climate system and climate change and 2) energy production and use. We will also examine the roles of science in guiding public decision making, especially when dealing with complex non-linear phenomena with large uncertainties (which this year will include airborne pandemics).

Course Approach: Classes will be participatory with exercises involving: problem solving, small and large group discussion, brainstorming, formal debates,... Each student will be expected to participate in individual and group activities during class. Class time will focus on context (the “WHY”, creating the mental filing cabinet) and methodology (the “HOW”, developing the tool-box).

Tentative evaluation scheme (changes will require class consensus): assignments (35%), an in-class mid-term (25 %), a partially self-assessed learning journal (5 %) and a final exam (35 %). To encourage a focus on problem solving skills (and not rote memorization), a single sided 8.5 by 11 inch crib sheet will be allowed for the mid-term and a two-side crib sheet for the final. Exams are cumulative in content with a focus on more recent material.

Class communication: extensive use is made of email via a course listserv To subscribe, send an email to: listserv@CLIFFY.UCS.MUN.CA, with the body of the message set to:
subscribe P3340 your name
Leave the subject and rest of the body blank.

You will then be sent a confirmation email from the listserv, to which you need to respond with “ok” as the whole body of the text (do not remove the subject line).

Academic Integrity, and missed tests/exams Students are responsible for following regulations concerning academic integrity: <http://www.mun.ca/regoff/calendar/sectionNo=REGS-0748>
Ditto for missed tests and exams. Most importantly, communicate with your instructor if any issues arise or are about to arise.

Some (loaded) guiding questions: What determines temperature? What determines local sea level? What should be done about climate change? What is non-linearity and what are its implications? How can we best reduce energy consumption in our homes and cities?

Covid-19 precautions As per MUN guidelines with added emphasis on fresh-air ventillation.